Claims

What Is Claimed Is:

1. A method for allocating air interface resources for a user in a wireless communication system comprising the steps of:

evaluating at least one received air interface resource reservation parameter associated with the user, to determine whether a bandwidth of an air interface resource is available for the user at a defined future time; and

generating an air interface resource reservation response for the user in response to the evaluated received air interface resource reservation parameter.

2. The method of claim 1 wherein the air interface resource reservation parameter includes at least one of: a position of a communication unit associated with the user, a time of day, a date, a desired bit rate for the defined future time, desired quality of service data, duration of a call, priority data associated with a plurality of air interface resource reservation parameters, and user identification data.

3. The method of claim 1 including the step of receiving an air interface reservation resource request to reserve the bandwidth.

4. The method of claim 1 including the step of negotiating with the user to determine alternative air interface resource requirements based on demands for air interface resources.

5. The method of claim 1 wherein the air interface resource reservation response includes confirmation data indicating that the bandwidth will be available for the user at the defined future time.

6. The method of claim 1 wherein the air interface resource includes a code division multiple access (CDMA) air interface resource.

7. The method of claim 1 including the step of broadcasting air interface resource usage information for a plurality of users to facilitate selection of at least one air interface resource reservation parameter.

8. The method of claim 1 including the step of determining the defined time based on the air interface resource reservation parameter and based on air interface resource usage data.

9. The method of claim 7 wherein the air interface resource usage information includes at least one of: surrounding cell usage data, current loading on a cell broadcasting the air interface resource usage information and an estimated time to wait for desired air interface resources.

10. The method of claim 1 including the step of generating a call back notification for a user to perform at least one of: locating the user as an agreed reservation time approaches; determining whether a cell where the user is located is busy and freeing up a parameter reservation for the user in another cell; notifying the user to originate; indicating a delay; and renegotiating air interface reservation parameters.

11. A method for allocating air interface resources for a user in a wireless communication system comprising the steps of:

generating an air interface resource reservation parameter associated with the user, for use in determining whether a bandwidth of an air interface resource is available for the user at a defined future time; and

evaluating an air interface resource reservation response that was generated in response to the air interface resource reservation parameter, to determine availability of the bandwidth.

12. The method of claim 11 wherein the air interface resource reservation parameter includes at least one of: a position of a communication unit associated with the user, a time of day, a date, a desired bit rate for the defined future time, desired quality of service data, priority data associated with a plurality of air interface resource reservation parameters, and user identification data.

13. The method of claim 11 including the step of generating an air interface reservation resource request to reserve the bandwidth.

14. The method of claim 11 including the step of negotiating to determine alternative air interface resource requirements based on demands for air interface resources.

15. The method of claim 11 wherein the air interface resource reservation response includes confirmation data indicating that the bandwidth will be available for the user at the defined future time.

16. The method of claim 11 wherein the air interface resource includes a code division multiple access (CDMA) air interface resource.

17. The method of claim 11 including the steps of:

broadcasting air interface resource usage information for a plurality of users to facilitate selection of at least one air interface resource reservation parameter; and

receiving air interface resource usage information.

18. The method of claim 11 including the step of transmitting the desired time as an air interface resource reservation parameter.

19. The method of claim 17 wherein the air interface resource usage information includes at least one of: surrounding cell usage data, current loading on a cell broadcasting the air interface resource usage information and an estimated time to wait for desired air interface resources.

20. A wireless network element comprising:

a radio frequency (RF) transceiver operatively coupled to receive an air interface resource reservation request; and

an air interface resource reservation processor operatively coupled to the radio frequency transceiver and operatively responsive to the air interface resource reservation request, to evaluate at least one received air interface resource reservation parameter associated with the user, to determine whether a bandwidth of an air interface resource is available for the user at a defined future time, and operative to generate an air interface resource reservation response to the RF transceiver, in response to the evaluated received air interface resource reservation parameter.

21. The wireless network element of claim 20 wherein the air interface resource reservation parameter includes at least one of: a position of a communication unit associated with the user, a date, a time of day, a desired bit rate for the defined future time, desired quality of service data, priority data associated with a plurality of air interface resource reservation parameters, and user identification data.

22. The wireless network element of claim 20 wherein the transceiver is operatively coupled to receive an air interface reservation resource request to reserve the bandwidth.

23. The wireless network element of claim 20 wherein the air interface resource reservation processor negotiates with the user to determine alternative air interface resource requirements based on demands for air interface resources.

24. The wireless network element of claim 20 wherein the air interface resource reservation response includes confirmation data indicating that the bandwidth will be available for the user at the defined future time.

25. The wireless network element of claim 20 wherein the air interface resource includes a code division multiple access (CDMA) air interface resource.

26. The wireless network element of claim 20 wherein the wireless communication system 200 provides air interface resource usage information for transmission by the RF transceiver.

27. The wireless network element of claim 20 wherein the air interface resource reservation processor determines the defined time based on the air interface resource reservation parameter and based on air interface resource usage data.

28. The wireless network element of claim 26 wherein the air interface resource usage information includes at least one of: surrounding cell usage data, current loading on a cell broadcasting the air interface resource usage information and an estimated time to wait for desired air interface resources.

29. A remote wireless unit comprising:

a radio frequency transceiver,

a processing device operatively coupled to the RF transceiver, and operative to output an air interface resource reservation parameter associated with the remote wireless unit, to determine if a bandwidth of an air interface resource is available for the remote wireless unit at a defined future time, and operative to evaluate an air interface resource reservation response that was generated in response to the air interface resource reservation parameter, to determine availability of the bandwidth.

30. The remote wireless unit of claim 29 wherein the air interface resource reservation parameter includes at least one of: a position of a communication unit associated with the user, a time of day, a date, a desired bit rate for the defined future time, desired quality of service data, priority data associated with a plurality of air interface resource reservation parameters, and user identification data.

31. The remote wireless unit of claim 29 wherein the processing device outputs an air interface reservation resource request, for transmission by the RF transceiver, to reserve the bandwidth.

32. The remote wireless unit of claim 29 wherein the processing device negotiates to determine alternative air interface resource requirements based on demands for air interface resources.

33. The remote wireless unit of claim 29 wherein the RF transceiver receives an air interface resource reservation response that includes confirmation data indicating whether the bandwidth will be available for the remote wireless unit at the defined future time.

34. The remote wireless unit of claim 29 wherein the air interface resource includes a code division multiple access (CDMA) air interface resource.

35. The remote wireless unit of claim 29 wherein the processing device displays received air interface resource usage information.

36. The remote wireless unit of claim 29 wherein the processing device provides the defined time as an air interface resource reservation parameter.

37. The remote wireless unit of claim 35 wherein the air interface resource usage information includes at least one of: surrounding cell usage data, current loading on a cell broadcasting the air interface resource usage information and an estimated time to wait for desired air interface resources.